
Stormtime Effects of Global Thermosphere-Ionosphere-Magnetosphere Coupling
Joint NASA TR&T Workshop: Sep 9-10, 2008
NCAR Center Green Facility, Boulder, Colorado

Joint Workshop to discuss the common ground interconnecting the NASA TR&T Focused Study Teams (FST) on Inner Magnetosphere Electrodynamics (Fuller-Rowel) and Stormtime Effects of Plasma Redistribution (Lotko). We will attempt to develop a system-science point of view within which the separate studies of the FST teams contribute.

CENTRAL QUESTION: "How does the global circulation and acceleration of cold plasma in the thermosphere-ionosphere-magnetosphere system affect overall storm development?"

The workshop will address observations and processes in four interrelated general areas: Sources, transport, acceleration, and effects. Contributions are sought which elaborate on aspects of the central question.

In keeping with specific events identified by both FST teams, there will be a focus on the 7-12 Nov. 2004 superstorm (Dst -380 nT on 8 Nov) and the 31 Aug 2005 moderate storm (Dst -130 nT).

The workshop is to be informal, with an emphasis on discussion and contributions'from the floor'. A schedule outline follows:

Tuesday Sept. 9

8:30 - 9:00 Overview of workshop plan (generate a system-science viewpoint)

9:30 - 10:30 FST-1 overview (Tim) 20 min. description, 30 min. discussion, +10 min.

11:00 - 12:00 FST-2 overview (Bill) 20 min. description, 30 min. discussion, +10 min.

12:00 - 1:30 Lunch

1:30 - 3:30 SOURCES: sources and processes feeding the global circulation of cold (ionospheric) plasma

3:30 - 5:30 TRANSPORT: where it goes and what gets it there (processes)

evening - activities TBD

Wednesday Sept. 10

8:30 - 10:30 ACCELERATION mechanisms energizing and injecting ionospheric plasma into the magnetosphere

10:30 - 12:30 EFFECTS of ionospheric plasmas on storm (and other magnetospheric) processes

12:30 - 2:00 Lunch

2:00 - 3:00 System overview developed in workshop - Rapporteur (TBD) will give a synopsis of what has been presented and how it all fits together (20-30 min., plus discussion)

3:00 - 5:30 Future Directions (Tim & Bill lead), Strategic Capability Initiative

evening - other events TBD

Thursday 8:30 - 12:30 FST separate team meetings to plan year's activities and annual report, etc - check with Tim and Bill for details.

We are asking participants to indicate in which thematic discussion session they would like to present material that addresses the overarching question?

Presentations should be informal, more like talking points to draw out a particular issue, rather than highly structured conference talks. Some might be one or two slides only, others maybe 10. It really depends on how well each slide works to support the talking point related to the overarching question.

***** Send feedback, comments, and requests to make 10-min. (or less) presentations in the various sessions to John Foster (jfoster@haystack.mit.edu)

**** Please distribute this announcement to interested colleagues and encourage their attendance.
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some contact information

PIs and Projects of 2006 TR&T team on "Storm Effects on the Electrodynamics and the Mid- and Low-Latitude Ionosphere"
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PI: Pontus Brandt/The Johns Hopkins University Applied Physics Laboratory
Title: Storm-Time Sub-Auroral Electric Fields: Ionospheric and Magnetospheric Control

PI: Bela Fejer/Utah Sate University
Title: Storm-Time Ionospheric Electric Fields

PI: John Foster/MIT Haystack Observatory
Title: Multi-Instrument Investigation of Inner-Magnetosphere/Ionosphere Disturbances

PI: Tim Fuller-Rowell/University of Colorado

Title: Modeling the Impact of Storm-time Electrodynamics on the Mid and Low Latitude Ionosphere

PI: Raymond Greenwald/Johns Hopkins University
Title: Understanding the Evolution and Impacts of Storm-Enhanced Electric Fields in the Mid-Latitude Ionosphere

PI: Anthony Mannucci/Jet Propulsion Laboratory
Title: Ionospheric Behavior During the First Few Hours of Intense Geomagnetic Storms

PI: Stanislav Sazykin/Rice University
Title: Modeling the Impact of Stormtime Electrodynamics on the Mid and Low Latitude Ionosphere

PI: Elsayed Talaat/The Johns Hopkins Universtiy Applied Physics Laboratory
Title: Sub-Auroral Polarization Streams Effects on the Ionosphere and Thermosphere

Fuller-Rowell team and collaborators circulation list:

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